STATE OF MISSOURI
Bob Holden, Governor • Stephen M. Mahfood, Director
DEPARTMENT OF NATURAL RESOURCES
www.dnr.state.mo.us

July 15, 2003

Mr. Aaron Miller
Environmental Manager of Primary Smelting
The Doe Run Company
881 Main Street
Herculaneum, Missouri 63048

Dear Mr. Miller:

I am writing to convey comments on The Doe Run Herculaneum Smelter Transportation Plan and Materials Handling Plan. This office received a revised draft plan on June 2, 2003, which did not contain updated figures, work procedures, and other appendices. Therefore, that revised draft plan was not complete for purposes of our review and comment. We were unable to finalize our comments on the revised draft plan before we received another revision of the plan on June 30, 2003. This revision is complete for our review and comment. The comments in this letter apply to the complete revision of the plan we received on June 30, 2003.

We are disappointed with the minimal revisions made to the plan, which do not appear to reflect the scope and substance of the May 14, 2003, meeting between representatives of the Missouri Department of Natural Resources' Hazardous Waste Program, the U. S. Environmental Protection Agency, and The Doe Run Company. Many sections of the plan have not been revised according to our understanding of the proposed new facilities and procedures. However, we believe it is appropriate to approve the proposed new concentrate unloading facility and the new road routing red zone traffic to the enclosed vehicle wash so that construction and operation may proceed. All effected sections of the plan must be revised according to the comments enumerated below before the department can approve the Smelter Transportation Plan and Materials Handling Plan in its entirety.

General Comments

1. The plan text does not provide adequate descriptions of proposed new facilities and procedures, as detailed in the specific comments below. Doe Run must provide the department with design details for the proposed concentrate unloading facility, and other new facilities and procedures when they are available.

2. The schedule for implementation is now summarized in section 3.4. We suggest phased implementation of the plan as new facilities and procedures become operational. Phased implementation should be discussed in the plan and reflected in the schedule.

3. Some of the discussion in the plan of existing, proposed, and contingency facilities, controls, practices, procedures, etc. is confusing, and should be better organized and edited. Some existing facilities and procedures will become obsolete when the proposed new facilities and procedures are implemented.

4. The plan does not adequately explain what facilities and procedures will be used in the interim until the proposed new facilities and procedures are operational.

5. The plan does not adequately address several processes that may result in tracking of contamination in the community. These include, but may not be limited to, traffic related to residential yard soil removal actions; employee parking lots and personal vehicles entering and exiting the facility; and City of Herculaneum, railroad, and other traffic requiring access to their facilities through the Doe Run facility.

6. It is our understanding that concentrate trucks are being weighed at the mills instead of the Herculaneum facility. Any continued use of the scales at the Herculaneum facility, and cleaning of the scales, should be described in the plan.

Specific Comments

1. Sections 3.1 and 3.1.4.2: The department sent Doe Run a letter dated December 30, 2002, stating its decision at that time to maintain the existing incoming and outgoing haul route for concentrate trucks (Joachim, Brown, and Station Streets), and the haul route for incoming and outgoing trucks carrying product and other materials (Main Street and Joachim Street). This decision remains unchanged, although other haul routes through the voluntary property purchase zone may again be considered in the future pursuant to the Settlement Agreement.

   We believe a haul route for all facility traffic that avoids all residential areas of Herculaneum should be expedited. To that end, Doe Run should fund construction of the new Joachim Creek bridge and southern haul road that bypasses residential areas of

Herculaneum if public funding does not become available. Alternatively, Doe Run should expedite creation of a haul route through the voluntary property purchase zone that does not impact residences by purchasing and demolishing houses along the haul route, thereby creating a buffer zone between the haul road and remaining residences.

Section 3.1.4.2: Figure 3 does not show the four alternative haul routes under consideration, as is stated in the text.

2. Section 3.1.1.1, third paragraph: The plan must contain more detailed descriptions regarding the tailgate latches and seals already installed on trailers used to haul concentrate (including specifications, drawings, diagrams, photographs, etc.), and the proposed new sealant method(s) selected to prevent releases of concentrate during transportation.

Based on documented releases from concentrate trucks, it appears questionable that the trailers currently in use are "sift-proof" (as defined in the plan) or leak-proof. We recommend developing a procedure for leak testing the trailers. Tailgates and other areas of leakage not addressed by measures in the revised draft plan must be sealed. Leak tests and corrective actions should be documented. If the measures in the plan do not effectively prevent releases during transport, other measures, such as lining of concentrate loads, obtaining leak-proof trailers, etc. must be revisited to prevent releases of lead concentrate during transportation.

Fifth and sixth paragraphs: The Bulk Truck Inspection Sheet must be updated to include inspection of the trailer bed for concentrate releases while raised, and the updated form must be included in the plan.

3. Section 3.1.1.1, Lead-Bearing Materials: It is stated non-bulk lead-bearing materials are delivered in containers at the strip mill building truck dock, and these delivery trucks do not enter the red zone. We are not aware that this area has been demonstrated clean by road dust sampling and analyses. In addition, it appears that delivery trucks exiting the strip mill dock lot must cross the red zone lane approaching the entrance to the vehicle wash facility. The plan must address routing delivery vehicles exiting the strip mill dock lot through the enclosed vehicle wash facility, and cleaning of the strip mill dock lot unless/until EPA determines by road dust sampling and analyses the lot is clean, and an exit that does not cross the red zone exit lane is provided.

The second paragraph must state that vehicles entering the red zone to deliver bulk lead-bearing flux materials must pass through the enclosed vehicle wash before departing the facility.

4. Section 3.1.1.2: This section describes several materials delivered to the facility by truck. Most of this traffic enters the red zone, and all of this traffic is stated to have some potential for tracking lead-bearing materials. All of this traffic exiting the red zone must exit the facility through the enclosed vehicle wash.

   Figures 1, 1A, 5, and 5A do not appear to show the locations of the fuel oil storage tanks.

5. Section 3.1.2.1 states both of the areas for truck loading of lead products are within the green zone and cleaning of trucks is not required. The loading docks and East Road must be designated red zone, and all trucks departing these areas must be washed unless/until it is demonstrated by EPA's road dust sampling and analyses that these areas can be designated green zone, when compared with EPA's road dust sample analytical results from cleaned non-haul roads in Herculaneum.

6. Section 3.1.2.2: All trucks transporting smelter by-products must depart the facility through the enclosed vehicle wash. It appears trucks transporting kettle dross off-site must enter the red zone, and must exit the facility through the enclosed vehicle wash. The loading docks and East Road used for off-site transport of silver dross products must be designated red zone and addressed accordingly unless/until EPA road dust sampling and analyses demonstrate they can be designated green zone, as compared to cleaned non-haul roads in Herculaneum. If trucks transporting sulfuric acid by-product off-site enter the red zone, then they must exit the facility through the enclosed vehicle wash.

7. Section 3.1.2.3 Nonhazardous: The last sentence must be clarified regarding what receptacle is being discussed, and where it has been moved. This green zone area may be red zone, pending the results of EPA's road dust sampling and analyses, as compared to cleaned non-haul roads in Herculaneum. All vehicles transporting hazardous, special, and biological wastes from red zone areas must depart the facility through the enclosed vehicle wash.

8. Sections 3.1.3.1 and 3.1.6.1 must specify what vehicles and under what circumstances these vehicles will exit the facility through the main entrance and other entrances. The circumstances under which vehicles exit through the main entrance and other entrances must be very limited. More detail regarding vehicle and road washing procedures in these areas must be included in the plan.

9. Section 3.1.3.2 appears to indicate that concentrate trucks currently exit the facility through the enclosed vehicle wash after an initial pressure wash at the current concentrate truck unloading facility. The plan does not appear to contain the procedures used for routing concentrate trucks through the enclosed vehicle wash until the proposed new road and concentrate unloading facility are complete and the associated procedures are implemented, and how cross contamination with lanes carrying presumed green zone traffic will be prevented.

It appears that upon implementation of the proposed aspects of the plan there should be no vehicle traffic exiting the facility from the south storage area entrance.

10. Section 3.1.3.3: All vehicles departing the east storage area must be routed through the enclosed vehicle wash unless/until EPA's road dust sampling and analyses determine the exit road to be clean, as compared to sample analytical results from cleaned non-haul roads in Herculaneum.

11. Section 3.1.3.4 does not address routing concentrate trucks to the enclosed vehicle wash in the interim until the proposed new concentrate unloading facility is constructed and operational. Since it will take some time to design, construct, and begin operation of the proposed new concentrate unloading facility, it would appear phased or interim procedures to put the enclosed vehicle wash facility in use as soon as possible are warranted.

12. Section 3.1.3.5: The East Road must be designated red zone unless/until demonstrated otherwise by EPA's road dust sampling and analyses, as compared to road dust data from cleaned non-haul roads in Herculaneum, and all vehicles leaving the facility via the East Road must be washed in the enclosed vehicle wash. The East Road must be cleaned according to red zone road cleaning procedures in the plan.

13. Section 3.1.3.6: This section indicates that all concentrate trucks and all vehicles entering the red zone are already exiting the facility through the enclosed vehicle wash. The plan does not describe the current procedure for routing concentrate trucks through the vehicle wash facility, and phasing in other new structures and procedures until the new concentrate unloading facility is completed.

14. Section 3.1.4, or other sections of the draft plan, do not include a detailed description of the proposed new concentrate unloading facility, including text, design plans, conceptual drawings, etc. There is no discussion of any pre-washing of concentrate trucks after unloading or washing of pavement in the new unloading facility to minimize releases of concentrate that may remain on the outside of the trucks after unloading, and tracking of contamination from the unloading facility. There is no discussion of any secondary containment or other measures for railcars to capture spillage from truck unloading and to prevent tracking of spilled concentrate by railcars, or cleaning of the railcars to prevent releases of concentrate that may collect on the outside of the cars during truck unloading. There is no discussion of implementing use of proposed structures and procedures in a phased manner until the new concentrate unloading station is completed.

15. Section 3.1.4.1: In the fifth paragraph, washing of Herculaneum Sewer District and Fire Department vehicles accessing the facility is not addressed.

16. Section 3.1.4.4: The plan contains an inadequate description of the design, construction, and operation of the proposed new concentrate unloading facility. Detailed plans for this facility must be submitted when they are available.

    This section must include a description of the concentrate truck traffic pattern to be used if the existing concentrate unloading facility is used again in the future. How concentrate trucks using the existing unloading facility in the future and routed to the enclosed truck wash is not described in the plan text.

    The schedule for planning, design, construction, and operation of the proposed new concentrate unloading facility must be compressed. Engineering, contractor bids, and materials acquisition should be complete by November 1, 2003. Excavation and construction of the proposed new facility should be complete by February 1, 2004. Construction of facilities described in section 3.1.4.5 must be proposed in a modified plan subject to approval by the department and EPA.

17. Section 3.1.5.2, second paragraph, and the figures do not appear to describe or show the locations of the petroleum storage tanks, the warehouse, and the locations of truck unloading for these facilities.

18. Section 3.1.5.7 and Figure 4 must describe and show red zone road cleaning for the refinery dock, the East Road, the strip mill dock lot, Station Street up to the proposed facility gate, the scales, and the parking lot adjacent to the west side of the facility until all proposed facilities and procedures are operational, and unless/until EPA road dust sampling and analyses demonstrates they may be designated otherwise.

    The third paragraph indicates movement of slag handling equipment used in the slag pile crosses the presumed clean lanes at the railroad crossing at the south end of the plant. This road must be designated red zone until demonstrated green by EPA road dust sampling and analyses. The slag handling equipment must be washed before it exits the plant area for the slag pile, and before it exits the slag pile for the plant to prevent tracking and releases of contamination onto the road, which may then be available for tracking onto the streets of Herculaneum.

    Railcars transporting slag, concentrate, and other lead-bearing materials routinely cross the East Road. This or other sections of the plan must address preventing releases and tracking of contamination from railcars transporting slag, concentrate, and other lead-bearing materials that cross the road in this area. Specific measures for cleaning railcars carrying slag, concentrate, and other lead-bearing materials, and empty railcars crossing this road upon return to the loading points must be described and implemented. Any special road cleaning procedures for this area must be described in the plan.

19. Section 3.1.5.10, 3.1.6.1, and Figures 1A and 5A: EPA will conduct all verification sampling and analyses used for determining whether product trucks and other vehicles

must pass through the enclosed vehicle wash before leaving the facility, and other decision-making. Road dust sample locations must be identified on the East Road approaching the enclosed vehicle wash facility. At a minimum, road dust sample locations must be identified in the vicinity of the two sets of railroad tracks that cross the East Road and the entrance to the enclosed vehicle wash facility. These would be the areas of greatest concern regarding possible cross contamination from releases from concentrate trucks exiting the proposed new unloading facility, and possible contamination from releases from or tracking by railcars used to move concentrate, slag, and other lead-bearing materials on the railroad tracks that cross the road in this area. Road dust sampling and analyses at the Station Street gate exit would also provide useful information regarding plan performance. EPA will sample the specified locations, and stretches of non-haul routes in Herculaneum cleaned by the same means as the haul routes for comparison. These data will be compared for purposes of determining whether all product trucks and other vehicles must pass through the enclosed vehicle wash before departing the facility. Sampling should continue to be conducted outside the facility on the streets of Herculaneum, as specified in the plan.

A berm must be constructed between the red zone lane approaching the entrance to the enclosed vehicle wash facility and the presumed clean exit lane where they intersect to minimize cross contamination from storm water, etc.

The performance measure is not 2.0 mg Pb/ft^2 loading, but rather will be determined by EPA road dust loading and concentration sampling and analyses conducted on non-haul roads in Herculaneum cleaned according to the haul road cleaning procedures. The weights and volumes of all road dust samples should be measured and reported. The performance measure based on EPA's road dust sampling and analyses must include total lead concentration in road dust in addition to loading. Total weights and volumes of road dust samples must be recorded for each area sampled to provide information regarding the relationship between road dust concentration and loading and relative risk.

20. Section 3.1.5.11: Changes to structures and procedures, and amendments to the plan must be submitted for review and approval by the department and EPA prior to implementation.

21. Section 3.1.6.1: The East Road into the east storage area must be designated red zone unless/until it is demonstrated otherwise by EPA road dust sampling and analyses, as compared to cleaned non-haul roads in Herculaneum.

The last paragraph states the proposed new road for lead concentrate trucks and their routing to the enclosed vehicle wash facility will be complete by October 1, 2003. This road should be put into use as soon as possible to route concentrate trucks from the existing concentrate unloading facility to the enclosed vehicle wash while the proposed new concentrate unloading facility remains under construction.

22. Section 3.1.6.2: Concentrate trucks leaving the proposed new concentrate unloading facility must be pre-washed to remove obvious contamination. Railcars carrying concentrate from the proposed new unloading facility, slag, and other lead-bearing materials must be cleaned to prevent releases to the East Road.

    Street cleaning procedures for the East Road and Station Street inside the proposed facility gate are not adequately described in the revised draft plan.

    Concentrate trucks exiting the enclosed vehicle wash should be allowed time to at least partially drip-dry, and the stretch of road leading away from the vehicle wash should be washed after each concentrate truck departs.

    Other revisions to this section of the plan may be warranted based on other comments in this letter.

23. Section 3.2: The mine/mill transportation and materials handling plan revised according to our previous comments must be submitted as soon as possible. There is no need to await approval of the smelter plan.

24. Section 3.3.1.2: Doe Run is responsible for assuring that concentrate spills during transportation are adequately cleaned up.

25. Section 3.3.2.1, third paragraph, must specify the distance from the sides of the road that will be cleaned using the Ultra Vac.

    If EPA's sampling and analyses for comparison of haul road and non-haul road concentrations and loading indicate that street cleaning cannot achieve non-haul road concentrations and loading, then Doe Run should reseal the haul roads through Herculaneum.

26. Section 3.3.2.4: All spills of concentrate on public roadways must be cleaned up immediately. Doe Run is responsible for assuring all concentrate spills are adequately cleaned up.

27. Section 3.3.3.1: The new concentrate unloading facility and the new road serving it will be in the red zone, and therefore must be cleaned according to the red zone road cleaning procedures in the plan.

28. Section 3.4: The plan must specify when Doe Run will take possession of streets from the City of Herculaneum.

    Vehicle wash spray automation should be complete and operational by February 1, 2004.

Design/contractor bids/materials for the new lead concentrate unloading facility should be complete by November 1, 2003. The new concentrate unloading facility should be complete and operational by February 1, 2004.

According to section 6.1.2, this is the schedule for installation of the door on the railcar unloader in the State Implementation Plan. It appears this schedule should be accelerated.

We reserve detailed comment on the Rail Transportation Plan (Section 4.0). This section of the plan may require revision in the future if Doe Run succeeds in contracting for rail delivery of concentrates to the Herculaneum facility.

29. Sections 4.3.2, 4.5.1, 4.5.2, 6.1: We assume the same railcar unloader is used to unload concentrate and other lead-bearing materials from unloading and storage elsewhere on-site, including railcars carrying concentrate from the proposed new concentrate truck unloading facility. We assume after the railcars are unloaded, they will be required to cross the East Road in the process of switching back to the concentrate truck unloading facility and other storage and loading areas. There are no procedures discussed for cleaning the empty railcars to prevent releases of residual concentrate and other lead-bearing materials when they cross the East Road. These issues must be addressed in this section, or in the truck transportation portion of the plan.

The railcars used to transport concentrate from the proposed new truck unloading facility, and other lead-bearing materials, must be covered as they are moved to the railcar unloader and back, and if concentrate and other lead-bearing materials are stored in railcars prior to being moved to the unloader.

30. Section 6.0: Doe Run should continue to work toward fully enclosed storage of all lead-bearing materials under negative pressure; minimize to the extent possible the number of times materials are handled on-site between delivery, storage, and process introduction; materials storage should be increasingly provided physically closer to the point of introduction into plant processes; and traffic moving between red and green zones should be minimized as much as possible by establishing transfer points, and other measures.

31. Section 6.1.2: The plan contains inadequate detail regarding the description of the proposed new concentrate truck unloading facility, and inadequate description of procedures for using the existing concentrate unloading facility in the future.

As commented elsewhere in this letter, the schedule for preparation and construction of the new concentrate unloading facility should be accelerated.

32. Section 6.2: Hot sinter storage should be fully enclosed due to emissions from hot sinter that may cause problems upon deposition.

33. Section 6.2.3, last paragraph: The plan should specify when all stocked sinter will be stored in railcars eliminating the need for loading and unloading in the south storage area. Railcars storing sinter and other lead-bearing materials must be covered while in storage and transit.

34. Section 6.3 describes handling of fume from the process baghouse #5, but does not describe handling of material collected in process baghouse #3 and the electrostatic precipitator.

35. Section 6.3.3: It would appear fume should not be stored outside in stockpiles due to its ability to blow and to be tracked.

36. Section 6.6: All railcars used to transport slag must be cleaned before leaving the plant area for the slag pile, and before leaving the slag pile to return to the plant to prevent releases onto the East Road. Railcars transporting slag to the slag pile must be covered. All equipment moved to the slag storage area must also be cleaned both ways to prevent trackout and releases of slag to the road.

    When slag is stored in railcars, as indicated in the fifth paragraph, the railcars must be covered.

    Trucks transporting slag to Doe Run's Buick Resource Recycling Division must depart the facility through the enclosed vehicle wash.

37. Section 6.8.2: It appears scrap metal trucks are loaded in the red zone. Therefore, they must exit via the enclosed vehicle wash facility. Vehicles transporting in-plant demolition material from the red zone for off-site disposal must depart the facility through the enclosed vehicle wash.

    The following comments pertain to the proposed new facilities and traffic patterns shown in figures 1A and 5A, and all other affected sections of the plan and figures must be modified accordingly.

    Figures 1A and 5A should show the permitted outfalls and lines for the wastewater treatment plant. Storm water drains on Station Street and elsewhere that are outside the plant boundaries or red zone should be indicated on the figures.

    Figures 1A and 5A show a future second truck unloading station next to the existing concentrate truck unloading station, but the plan does not describe the purpose of this future facility.

    The traffic patterns shown on Figure 1A and 5A require concentrate trucks and other vehicles entering the red zone through the new Station Street gate and south facility entrance to cross the lane carrying outgoing traffic that has been through the enclosed

vehicle wash and traffic that may not require washing based on the results of EPA road dust sampling and analyses. It appears that a third lane must be provided at the gate for concentrate trucks and other vehicles entering the red zone through the south entrance to enter on the left side of the road in order to eliminate this crossover with the presumed clean exit lane. The new left entrance lane must be designated as being in the red zone, and there must be a physical barrier, such as a curb, between this lane and the exit lane demonstrated to be clean by EPA road dust sampling and analyses.

Based on the traffic patterns shown in Figures 1A and 5A, we question whether concentrate trucks using the existing concentrate unloading facility will have room to turn around and back into the existing unloading facility without crossing the presumed clean exit lane. There must be a physical barrier, such as a curb, to assure concentrate trucks do not cross over the presumed clean exit lane.

In addition to the entrance lane for concentrate trucks and other vehicles entering the red zone through the south entrance, the nearby truck staging area, and employee parking lot should be designated red zone, and all traffic from these areas must be managed accordingly. We would recommend eliminating employee parking in this lot in front of the facility.

Figures 1A and 5A and the plan text do not address how dump trucks and other vehicles engaged in residential yard soil cleanups will enter and exit the facility and wash before exiting. It appears that the slag pile must be designated red zone for this traffic, and these trucks must exit through the enclosed vehicle wash facility. However, in order to do that, this traffic must cross the entrance and exit lanes that are presumed clean. Separate entrance and exit lanes and a separate wash procedure may need to be developed for this traffic.

Figures 1A and 5A and the plan text do not indicate any prewashing of concentrate trucks after unloading at the new unloading facility. There is also no washing shown or described for railcars carrying lead-bearing materials that cross the East Road on either set of railroad tracks.

Figures 1A and 5A show, and the text contains limited discussion of the future wash station serving the east storage area, and the temporary vehicle wash station at the refinery dock. The plan does not contain a schedule for construction of the east storage area wash station. The plan also does not describe how either of these wash stations will be utilized, considering that the entire East Road and refinery dock must be designated red zone unless/until EPA road dust sampling demonstrates otherwise.

Figure 1A shows a truck staging area south of the scales and enclosed vehicle wash facility. The plan does not describe the use of this area or vehicle and road cleaning.

38. Figure 1B: It is not clear what the arrow on top of the sinter cooler depicts. It appears to be a possible direct air emission. If so, what does this emission consist of?

39. Figure 2 and 2A must be updated to show proposed roads and facilities. The refinery dock, the East Road, the strip mill dock lot, Station Street up to the proposed facility gate, the scales, and the parking lot adjacent to the west side of the facility must be designated red zone until all proposed facilities and procedures are operational, and unless/until EPA road dust sampling and analyses demonstrates they may be designated otherwise.

40. Figure 4 must be modified to show red zone cleaning procedures applied to other areas as specified elsewhere in this letter.

41. Doe Run should assure the proposed locations for storage of various materials at the south end of the plant shown in Figure 5A are consistent with the plan text.

42. Appendix B Work Procedures: We did not conduct a thorough review and comment on the individual work procedures in Appendix B. However, these procedures are mostly very general in nature, and their practical application is not self-evident. In addition, it appears that many of these procedures reflect current facilities and procedures that may become obsolete upon implementation of proposed facilities and procedures, and may require further revision.

43. Appendix C: Thorough review of the records in this appendix was not conducted. However, in general, it appears these forms may require additional revision based on the proposed new facilities and procedures.

44. Appendix D: We did not conduct a thorough review of the process flow charts in this appendix. However, in general, it appears some of these require further revision based on proposed facilities and procedures.

45. Appendix E: Metal concentrations and sample weights and volumes must be measured and reported in addition to metal loading.

Please revise and resubmit the Smelter Transportation Plan and Materials Handling Plan according to the comments in this letter by July 31, 2003. Doe Run did not directly respond to all comments in our last detailed comment letter dated April 16, 2003, containing comments on a previous draft of the plan. If Doe Run does not revise the plan according to specific comments in the present letter, we request that you submit written responses to each of those comments explaining why revisions to the plan were not made. Please submit those responses along with the revised plan by July 31, 2003. In addition, please submit the revised transportation plan and materials handling plan for Doe Run's Southeast Missouri Mining and Milling Division for our review and comment by July 31, 2003.

I would be happy to discuss with you any or all of the comments in this letter. Please contact me by telephone at (573) 751-0634, or return mail at P.O. Box 176, Jefferson City, Missouri 65102-0176.

Sincerely,

HAZARDOUS WASTE PROGRAM

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Environmental Specialist
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